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The Management REVIEW



SEPTEMBER, 1942

COMMENT • DIGEST • REVIEW

Office Management in W A R T I M E

THE WAR has put the office manager squarely up against the toughest problems he has ever faced—and nothing in sight but more of the same. How to adjust office organization to war conditions—how to step up office efficiency—how to recruit, train and hold office personnel—how to conserve equipment and supplies—how the office manager's relationship with top management is altering—these are the urgent problems that confront the office manager today, and these are the timely themes of the AMA Office Management Conference.

A practical, hard-hitting program that's a "must" for the office manager

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THESE ARE THE QUESTIONS OFFICE MANAGERS ARE ASKING

In a survey made by AMA, these are the questions most frequently voiced by office managers

How can we combat the loss of office workers to the factory and other jobs?

How will the War Manpower Commission's directive affect the supply of office personnel?

How far should office salary levels be adjusted to meet competitive conditions?

What are the best tests for new office workers?

Are there any new developments in the technique of interviewing applicants?

How has war affected selection and training policies?

How can women best be upgraded for supervisory and executive jobs?

What is the outlook for office supplies?

What are the fundamentals of a sound program of office equipment maintenance?

What can be done to increase office output?

What methods are effectively employed to reduce the use of office supplies?

What practices have been found most satisfactory in the handling of grievances?

What measures should be taken for effective utilization of office machines?

What substitute materials and methods can be effectively employed?

How can worker cooperation be enlisted in a program of conserving office supplies?

THESE ARE THE QUESTIONS THE AMA OFFICE MANAGEMENT CONFERENCE IS DESIGNED TO ANSWER

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SEPTEMBER, 1942

Volume XXXI

No. 9

Copyright, 1942
American Management Association
Printed in U. S. A.

The Management REVIEW

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WHILE crippling labor shortages develop in our war production industries, one of every seven workers remains without a job. Explaining this anomaly in the opening abstract of this issue, John J. Corson declares that, so far as the total supply of workers is concerned, there is no labor scarcity in this country: what is scarce is effective use of manpower and efficient management of the labor supply. Indeed, if we eliminated the present wastage of manpower, there would be enough workers to man this country's war and civilian industries throughout this year and probably through 1943 as well.

Waste of manpower is due to a diversity of causes: industrial accidents, excessive labor turnover, pirating and hoarding of skilled labor, competitive bidding for labor, discriminatory employment policies, and strikes. During 1940, for instance, the manpower required to construct 525 cargo ships was lost through disabling injuries alone. Labor turnover, which is always with us, is greatly accelerated in wartime, and an estimated 24,000,000 man-days will be lost in 1942 from this cause alone.

Frequently selfish managerial policies are to blame: A Detroit auto factory, lacking tool and die orders, put its skilled tool and die makers on the job of painting the plant. In a New England plant, skilled workers were found playing bridge while the company awaited promised new orders.

No nation at war can afford such waste of manpower and, unless it is curbed, Mr. Corson warns, traditional methods of recruiting and hiring must yield to government compulsion. For more facts and figures on the problem, see page 294.

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THE MANAGEMENT REVIEW is published monthly by the American Management Association at 330 West 42nd Street, New York, N. Y., at fifty cents per copy or five dollars per year. Vol. XXXI, No. 9, September, 1942. Entered as second-class matter March 26, 1925, at the Post Office at New York, N. Y., under the Act of March 3, 1879.

The object of the publications of the American Management Association is to place before the members ideas which it is hoped may prove interesting and informative, but the Association does not stand sponsor for views expressed by authors in articles issued in or as its publications.

September, 1942

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THE MANAGEMENT INDEX

General Management

Wasting of Manpower

IN time of war, idle men and women anywhere are an anomaly. Yet today—eight months after this country's entrance into this war—at least one out of every seven men and women who can be considered potential workers is without a paid job. Simultaneously, 25 of the country's principal industrial centers report a shortage of *male* labor for the production of aircraft, ships, machine tools and munitions. Newspaper reports that men are to be "frozen" in their jobs cause thousands hurriedly to seek other jobs at higher wages or nearer home. Thus evidences of a scarcity of labor are numerous, while idle workers look for jobs.

There are plenty of men and women to man this country's expanded plants, shops and farms for this year at least—probably there will be enough in 1943. Certainly there can be no real labor shortage in this country so long as there are two million or more unemployed men and women, so long as some workers remain idle because wages are low and others because their

skin is colored. Nevertheless, even now we are confronted with crippling shortages of labor in centers and industries vitally important to the war effort.

Employers in war industries forecast that the greatest expansion of employment since the start of the war program will take place this summer and early this fall. It may become necessary to tell men and women where they must work, just as we tell our young men where they must serve in the armed forces. Moreover, it may prove necessary to tell employers how they shall hire workers, and whom they shall hire—unless we find ways of eliminating the present widespread *waste* of manpower.

There is nothing novel in the ways by which we waste manpower. Excessive labor turnover is a well-known source of waste. The railroad industry, for example, provides a total of over 1.2 million jobs. During the next six months there will be an increase in employment of about 135,000 jobs and a replacement of some 167,000 work-

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ers in the course of normal turnover. The hiring, rehiring, training and retraining which these figures represent account for the loss of tens of thousands of man-days.

The accelerated economic tempo of war itself increases labor turnover. Reckless competitive bidding for labor, differential working conditions, labor pirating, and the Selective Service drafts are all contributing factors. For instance, net separation rates in manufacturing industries increased from about 3.5 per 100 employees in November, 1941, to about 5.4 per 100 employees in March, 1942. At the turnover rate prevailing in March, and if it is assumed that each separation lasts only one day, the loss during 1942 will be equivalent to the loss of some 300 vitally needed cargo ships!

An even greater, and less justifiable, loss of manpower can be attributed to industrial accidents. For disabling injuries alone, the loss to production during 1940 was 42 million man-days, or the manpower required to produce another 525 needed cargo ships. In contrast, the loss of from 6 to 15 million man-days during 1942 as a result of strikes seems minor.

Serious waste of manpower also results from rigid or discriminatory specifications which preclude the employment of women, Negroes, aliens, Jews and aged workers. In Baltimore, for instance, the supply of white manpower is virtually exhausted while thousands of Negro workers remain unemployed. In-migration of white workers is encouraged even though

there is a shortage of housing and transportation. Similar situations exist in Seattle, in Philadelphia, and in other cities.

As a nation, we have done little to dovetail seasonal jobs. In the Southwest, this year, a thousand acres planted in sugar beets, enough to supply sugar for 1.5 million people for one month, were plowed under because of the lack of "stoop" labor. Workers are required a few weeks later in the cotton fields and on the railroads for "track labor." In former years, it was possible to meet these three labor demands from separate groups of workers. This year the aggregate supply of workers in the area has been depleted by Selective Service and by the recruitment of aircraft and shipbuilding industries on the West Coast and in Texas. Hence the only way these labor demands can be met is by dovetailing seasonal jobs.

In two eastern ports, the workers in approximately 20 separate ship repair yards are working half time or less. The total number of workers required to man these yards is roughly twice as great as the number that would be required were all ship repair work concentrated in yards where men were employed full time.

In New York City there are more than 400,000 unemployed workers. Though more than half the state's labor force is located in this city, only one-sixth of the contracts for war production have been let to New York City. The allocation of additional contracts to employers in that city bids

fair to prevent the wastage of perhaps a quarter of a million man-years during 1942.

The only real shortage of labor which has affected war production to date is the shortage of *skilled* workers, particularly in the metal trades, aircraft, shipbuilding and ordnance. For every skilled tool designer available, 15 are needed. For toolmakers, the ratio of demand to supply is 31 to 1; for assemblers, ship and boat building, 93 to 1; for plate hangers, shipbuilding, 61 to 1.

Meanwhile employers who have skilled workers in their employ "hoard" them, knowing how hard it will be to replace them. In New England, skilled toolmakers were found playing bridge while the shop in which they were employed awaited hoped-for new orders.

In months past there has been enough surplus manpower so that war production has not been seriously handicapped by such wastage of manpower. But the surplus is diminishing rapidly, while the labor requirements of war production are expanding inexorably.

In the years 1942 and 1943, from 5 to 7 million men will be added to the armed forces. During the same two-year period, upwards of 13 million people will also be drawn into war production. In short, one of every six or seven persons in this country will switch from no work or dispensable work to service in the armed forces or to essential war work.

The reservoir of manpower upon which we must depend consists principally of housewives and students under 18 years of age. In 1940, there were 7 million students 14 to 17 years of age, and 2 million students over the age of 18. This group, however, is not likely to yield many regular workers. There are approximately 19 million women between the ages of 18 and 44, and about 10 million between 45 and 64, who are not in the labor force. But the employment of women in the 45-64 age group may be restricted by the unwillingness of many employers to hire older women, and housewives with young children cannot be expected to provide many full-time workers for industry. Single women who are not employed in industry may have household and other responsibilities which will prevent their accepting employment. The main reserve of labor, then, is married women with no young children.

In summary, labor is not scarce in the United States so far as the total number of potential workers is concerned. What is scarce is effective use of our manpower and effective management of the labor market. The sooner these lacks are supplied, the longer shall we be able to meet the rapidly expanding labor requirements of war production without substituting compulsion for the volition of worker and employer in bringing men and jobs together. BY JOHN J. CORSON. *The Atlantic Monthly*, August, 1942, p. 75:4.

Blueprint for Wartime Living

THE end of life as usual for business men, farmers, workers, housewives, everybody, is starting to come into sight. That end can be seen in backstage planning, in announcements, in official gesture, and in some acts.

Signs of what is ahead are apparent in many forms. Some of them follow.

Draft. Army demands for men are starting now to cut deeply. They soon will be raking through the ranks of men with dependents and of married men. The result is that today no individual between the ages of 20 and 44 can be certain that tomorrow he won't be a private in the Army. Even the highest officials in the Selective Service System are tangled up in their own statements and contradictions on draft policy. Life as usual right now is impossible for any man eligible for draft call.

Entertainment. Until now, the people of this country have been permitted to have their circuses, their games and shows. Now the warning is issued that there may be a limit placed on travel to football games. A hint is given that theatres may find themselves restricted.

Food. Meatless days already are predicted. Allocation of meat on a regional basis is officially recommended. This, in turn, is the first step toward coupon rationing. Meat will not be the only food rationed. Can-

ned vegetables and other canned goods are on the list for 1943.

Clothing. Here, too, the rationing officials have their plans. Army demands for wool are now so great that, in spite of immense imports, it appears that in 1943 civilians will be lucky to get 70,000,000 pounds of wool for their clothing instead of their normal 250,000,000 pounds. Most people are well supplied with clothing, so that they can continue to dress as usual. Those who aren't so supplied may be in trouble later if they cannot get along on a rationed supply. Furs are scarce.

Rubber. A whole way of life revolves around rubber and its use in tires. This nation's tires, which a few months ago were in good condition, today are not in good shape. Driving as usual has worn them down from an average life of about 15,000 miles to an average life of under 10,000 miles. A series of drastic steps is taking shape backstage to limit this country's driving. These steps are to be taken despite proposals for "cotton sandals" for tires and other plans to extend tire life.

Fuel. Despite official arguments about whether or not rationing is necessary, plans are being laid to ration fuel oil in eastern states. Heating as usual for at least 1,500,000 households is to be denied this winter.

Those are just some of the changes that are coming.

In addition, government is getting set to control the inventories that a

business man may have in his store or factory. It is studying ways and means of inducing industries to concentrate their production for civilian use in a few factories. It also is studying ways and means of inducing distributors of goods to concentrate their selling in fewer and fewer stores as the supply of goods for sale tends to dwindle. That is a problem for late 1943, rather than for the present.

Labor leaders are being informed that, sometime after election, government is going to insist that wages of higher-paid workers in industry be stabilized. There is a hint that, after the voting is ended, the political

power of labor leaders may decline for a time.

Taxes, too, are to be used to limit life as usual. In the air are forced savings and withholding taxes and higher payroll taxes that will leave less and less to the middle-class group for spending. It is this group of salaried persons that will feel the principal pinch and the change from life as usual that is now under way.

These changes today are largely in the planning stage. Later they will become real, and, as they do, the war will take on more and more meaning for the average person. *The United States News*, August, 1942, p. 21:1.

A Jobber Helps Build Turbines

LAST December the Lewis Supply Co., of Memphis, was just a long-established wholesaler of industrial machinery and supplies. Priorities had begun to pinch, however; selling was easy, but there was less and less to sell. For this reason and because he wanted a part in the war effort, President T. Walker Lewis was particularly interested in an OPM traveling exhibit of parts that could be made by small subcontractors. Amid a bewildering display of machinery ranging from lock washers to heavy castings, he singled out a Westinghouse exhibit of turbine parts. Westinghouse inspected the small reconditioning shop that Lewis operated and decided that the company could do the job. A negotiated contract was signed on the spot, and the Lewis Supply Co. boldly committed itself to fulfil the order by September, 1942. At that point the company had little reconditioning equipment, no factory, and no skilled employees, with the exception of Lee Hines, who had been head of the machine shop in the Memphis Ford assembly plant.

Discovering immediately that new machine tools were not to be had at any price, Lewis dispatched an experienced assistant, J. W. Clements, to comb the second-hand market from New York to Dallas. Within a week the first tools began to arrive at Memphis. Hines and two other Ford machinists meantime were busy hiring and training young men from the Memphis vocational schools. By March 1 the plant was tooled up, the men had learned the machines, and the first gears and rings began rolling out.

Today the little shop is working 24 hours a day, seven days a week, with three shifts of 12 men each. Mr. Lewis is so confident of beating the schedule on the first order that he is now negotiating for a new and bigger contract with Westinghouse and plans to expand the plant. The supply business continues, the bulk of it now involving war contracts. But war or no war, T. Walker Lewis proposes to stay in manufacturing. "I can make a lot of things I've been selling," he says. "I'm going to do both."

—*Fortune* 7/42

Office Management

Recruiting Office Workers Today

PERSONNEL managers are bidding against one another, fighting for more men and women for their offices and factories. Pet personnel ideas must be scrapped for the duration if offices are to function at anywhere near pre-war efficiency.

Some seldom-used but effective ways of obtaining more office help include:

Using women on men's jobs: There is no reason why the jobs which were formerly offered to men from business colleges and universities should not be open to women with like training—a young woman who has completed an accredited course in accounting might start as a junior cost clerk, for instance. And if the wage differentials between men and women are eliminated, recruitment will be facilitated. Dr. C. Charles Burlingame, the eminent psychiatrist, states: "There is hardly anything a woman cannot do as well as a man, *if not better*, if she is in a frame of mind to attempt it."

Recalling women who were employed before they married: In each community there are many women who retired after marriage, either because they wanted to or because home duties compelled them to. These women should be drafted for industry, and company or municipal nursery schools provided for their children.

Hiring inexperienced boys and girls to be trained in company or government schools: Short courses which will

enable young people to step into office jobs should be offered in government schools—or perhaps in conjunction with high school work. Equipment manufacturers would do well to follow the example set by Felt & Tarrant, the comptometer firm, and International Business Machines, both of which are doing an excellent job of training and furnishing office personnel.

Accepting inexperienced applicants who can present National Clerical Ability Test certificates: The fact that an applicant has passed such an examination is ample evidence of his capabilities.

Using students from correspondence schools: Correspondence schools have students in every district, many of them likely accounting and clerical prospects who are seeking to gain business experience and do not expect much in the way of compensation. This is a source of supply most personnel managers overlook.

Using the physically handicapped: How many handicapped workers are available and acceptable can readily be determined through the state Board of Education. In many cases physical requirements can be lowered if a proper analysis of the job is made.

Hiring older men and women: Experienced men from other fields can be retrained. Salesmen, for instance, are often good practical business men who

could fit into any office. Then there are competent small business men who are being forced out of business and will have to seek employment. George Trundle, president of Trundle Engineering Company, recently stated that in his association with the War Production Board he hired many men between 60 and 70. Men in that age group may not be able to move with alacrity, but they make very fine instructors.

Farming out work to be done at home by those unable or unwilling to work in offices: Personnel managers

often look askance on the idea of homework. But there is no reason why typing, stuffing envelopes, etc., could not be farmed out so that housewives could do the work. The General Tire & Rubber Company and other concerns in the vicinity of Akron, Ohio, have already started to farm out jobs. For example, General Tire & Rubber has its export translation work done at home by a woman interpreter.

By J. J. GOLDIE. *Proceedings of the Twenty-third Annual Conference of the National Office Management Association*, p. 26:5.

► **HOUSEWIVES**, mostly mothers with young children, have been hired by Southeastern Greyhound Lines to do clerical work in the home and thus ease the shortage of male white-collar workers. The company delivers the work and picks it up when it is completed, while the women keep their own time records.

—*Forbes* 8/1/42

Renovating Typewriter Rollers

BY taking advantage of a new rubber-saving process for renovating typewriter rollers, business firms can make an important contribution to the nationwide rubber conservation campaign now under way, according to technical experts of the Office of Price Administration.

A recently developed process makes old typewriter rollers as good as new (or better), increases their service by several years, and requires no use of rubber whatever. Ordinary sand- or grit-blasting machines, of the type used by metal polishers, can be shifted to the job of renovation; in fact, typewriter rollers can be taken to almost any concern engaged in sand-blasting operations because several types of machines now in use are capable of renovating them.

Briefly, the roller is rotated in a blast of No. 90 steel grit at a distance of from one to two inches from the nozzle, under an air pressure of 15 to 20 pounds for two or three minutes. While this does not remove deep pits or corrugations, rollers that are not too deeply pitted will work satisfactorily after the glazed surface has been removed.

The process is far superior to ordinary regrinding, which reduces the thickness of the roller to a much greater degree. Moreover, sand-blasting can be repeated several times.

The importance of this discovery is demonstrated by the fact that more than 1,000,000 typewriter rollers must be replaced or renovated every year in this country. Tons of rubber ordinarily consumed by such replacements can be saved by the new process.

—*Purchasing* 7/42

Pointers on Office Efficiency

WAR shortages, scarcity of trained help, and freezing of office machines bring new problems to the office manager daily. Here are a few suggestions to cut costs, speed work:

1. Many office managers have found that wear and tear on typewriters is decreased when each machine is mounted on a felt cushion or a slab of Celotex acoustic tile. Noise is lessened and vibration absorbed, which means longer life for the typewriter.

2. One of the reasons typewriters become clogged and dirty is that typists do not shift carriages to the extreme right or left when erasing. Doing this prevents the rubber waste and paper fiber from falling into the mechanism of the machine.

3. Although the paper shortage scare has proved premature, some well-known companies are still using the back of the letterhead, instead of a second page, when letters are longer than one page.

4. Surest, simplest way of increasing production where several operators are doing similar work is to post production figures on bulletin boards. Just post the daily cyclometer figure, the line count, or the daily production

figure, such as invoices written, ledger postings completed, and say nothing. Time after time this plan has brought about increased production.

5. Productive source of filing equipment is the private office. Many executives have twice as much private filing equipment as they actually need. Some executives have file drawers which have not been revised, cleaned out, or in active use for years. Filing cabinets are not storage cabinets. If short of filing cabinets, raid the private offices. Of course there will be kicks, but not one executive in five can justify the demands he makes for filing equipment.

6. For the benefit of new employees, gather samples of all office forms, multigraph or mimeograph instructions for use of each form, and supply each employee with a set. It often requires several weeks for the new employee to become familiar with the different printed forms used in the average medium-sized or large office. Giving each employee who may need to use them a set of forms with instructions saves a lot of question-asking and helps to prevent confusion.

American Business, August, 1942, p. 22:2.

► TO RELEASE new space for production, one company is microfilming documents and records that go back as far as 1882. The records now take 45,000 square feet for storage; microfilmed, they will need a vault only 10 feet square.

—*Industry* 7/42

Personnel

Job Planning and the Draft

ADVICE for employers who are planning how best to meet the problem of labor supply as the armed forces draw their millions from the civilian population is contained in a letter from Selective Service Headquarters to a large employer of labor. Preferably, the letter points out, those hired to replace men called to the colors should be married men with children, or men over 45 years of age, and wherever possible women should be employed to fill jobs previously occupied by men.

The following steps are also suggested:

1. Survey your entire male personnel, separating (a) those who are registered and subject to selective training and service (employees born between February 16, 1898, and June 30, 1922); (b) those who were 45 years of age or over at the time of their registration; and (c) those who were under 20 years of age at the time of their registration (the latter group will be subject to selective training and service upon reaching the age of 20 years).

2. From the group subject to military service, separate those who are absolutely essential to the effective and continuous operation of your business, either because of a shortage of skilled men in their occupations or because of the long period of training necessary in their jobs. These are the men whose occupational deferment may be desirable.

3. Analyze the status of all male employees subject to selective training with a view to determining those for whom deferment will be requested, those who can eventually be replaced by training new male employees, and those who can be replaced by women.

4. Obtain information on the Selective Service status of all employees whose deferment will be asked. A brief questionnaire showing local board number, present classifications, and dependency status can be used to obtain this information.

5. Outline in some detail the activities of your company as they affect the war effort and send this information to the local boards which have jurisdiction over your employees. This will provide a general background, while more specific data can be filed on behalf of each individual requesting deferment when his case comes up.

6. Upon receiving information on the Selective Service status of the employees you consider essential and irreplaceable, pick out those who have received the Selective Service questionnaire (DSS Form 40) and proceed immediately to prepare the Affidavit to Support Claim for Occupational Deferment (DSS Form 42A). With this form should be filed affidavits regarding the registrant's training and experience, the essential nature of the work he is doing, and the importance of his production to the war effort.

7. For employees who are deemed

essential but who have not yet received their Selective Service questionnaires, it is suggested that you write the local board of each registrant, advising it that he is a necessary man in your company and that at the proper time you expect to file up-to-date information on

the essential nature of his service. The DSS Form 42A and supporting data can then be submitted after the registrant has received and returned his questionnaire.

Labor Relations Reporter, August 17, 1942, p. 823:2.

Policies Governing Employment of Women

THAT employment of women will soon be far more widespread than government studies have indicated is shown by answers to a questionnaire submitted by *Modern Industry* to 1,000 top executives. Results confirm the general expectation of increased female employment in such industries as munitions and aviation. They further reveal that the shift to women employees extends even to textiles, where employment of women might have been assumed to have reached the saturation point, and to foundries, long regarded as the province of male workers.

Some idea of the magnitude of the shift may be gained from a few figures. In one aircraft plant women constituted only 5 per cent of the personnel in 1941; today the figure is 60 per cent, and it is expected to reach 80 per cent in 1943. In a packing plant, what was originally an all-male working force is now 16 per cent female, with 30 per cent the estimate for 1943. The percentage of women employed in a baking company has risen from 10 per cent last year to 35 per cent

today; by next year it will probably be 75 per cent.

Segregation of women by departments has apparently been discarded by modern employment managers. An overwhelming majority of the executives questioned believed that men and women could work satisfactorily side by side. Supervision of women by male foremen and gang leaders is generally found to be most efficient, but the employment of women sub-foremen or welfare workers is given heavy endorsement. This practice has proved itself of value in textile mills here for many years, and in England's war industries in recent months.

The *Modern Industry* survey also shows that in most plants women are still wearing whatever clothes they have—and that skirts still predominate. But in the new industries and those reporting the greatest increase in female employment, the use of slacks, overalls, and other trousered garments is increasing, and uniforms predominate. Uniforms, a large proportion of companies have found, improve morale, prevent accidents, and remove the "clothes competition" found gen-

erally among women workers. A small group notes that women object (but only temporarily) to being compelled to wear uniforms on the ground that this smacks of "regimentation."

Other answers to the questionnaire indicate that, in the opinion of personnel managers, the ideal woman employee is married, at least 25 years old, and most likely a mother. Preponderance of age preferences lies between 25 and 30; preferences for women up to 35 and beyond exceed those for women under 25. Also indicated is a marked leaning toward women with husbands in the armed services. Oddly, although the ideal woman for industrial employment ap-

pears to be an older woman, married and with children, only a very small number of employers apparently recognize the need for acquiring facilities for the care of children.

Responses to other questions indicate that the employment of women already has, or soon will, necessitate the purchase by companies of many facilities in excess of those normally required when men only are employed. Important items suggested include toilet facilities; special lockers and washrooms, rest and recreation rooms; first-aid equipment; sanitary napkins and dispensers; work stools, chairs and benches; work tables; and vitamin tablets. *Modern Industry*, July 15, 1942, p. 87:3.

"Ambition Survey"

IN a search for hidden executive talent, a West Coast company has introduced, along with such procedures as promotional reviews, training, and leadership discussions, an ambition survey. "Ambition blanks," which are distributed to all employees, pose the following questions:

1. What is your present job? In your opinion, is this job the one for which you are best suited? (Do not hesitate to write "yes." We want an honest expression of opinion.)
2. If your answer to the first question is "no," then tell us your ultimate ambition. Be frank.
3. By what steps do you hope to achieve your ambition?
4. Have you had any practical experience in the type of work to which you aspire?
5. How are you preparing yourself to realize your ambition?
6. What training classes, if any, have been helpful to you?
7. What classes would you like to see given to help you attain your ambition?

Best results, the company has found, are obtained when the fact that the answers are confidential is stressed.

—*Personnel Journal* 6/42

► **FIVE THOUSAND** business concerns are now diverting at least 10 per cent of their payrolls to War Bonds, the Treasury reports. More than 100,000 other firms have installed payroll savings plans through management-labor cooperation but have not reached the goal of 10 per cent in bond purchases.

—*NAM News* 7/25/42

Picking the Plant-Protection Force

TEN years ago Plant Protection was a little used term, and an industrial protection system was generally regarded as a parasitic appendage of production more to be tolerated than respected. But the last three to five years have witnessed a great change in the regard for this very necessary service, brought about by the vital need of uninterrupted high-speed war production and its consequent added hazards to industry.

Let us consider the make-up of the Plant Protection Force—the guards, the patrolmen, the inspectors, the maintenance men . . . the men who are going to protect the plant from fire, from trespass, from sabotage, from any other avoidable interruption they can anticipate . . . the men you are going to depend on in an emergency . . . the men who are going to take the interest of the plant to heart.

In picking our protection men we should demand honesty and integrity, intelligence and alertness, tact and diplomacy, the ability to talk little and hear lots, a reasonable physical fitness, and an ability to handle and control people without using physical force. The ideal protection man is preferably between 35 and 45, a high school graduate or better, of American citizenship, and with a past that will bear the closest investigation. We won't get this man for a janitor's rate; he will be worth more, and deserves more, than a top production hand.

If he responds properly to training,

a man of this type should become a first-class protection man within a year. He should be schooled in fundamentals constantly, from the beginning of his training to the conclusion of his service. Drill him constantly in the basic principles of plant protection, until he is so well grounded in them that he will react instinctively to any emergency that may arise.

He should first be schooled in plant "geography," know every floor of every building and all the out-of-the-way rooms and cubbyholes in the plant. He should become familiar with plant rules and regulations and their interpretations and applications. The next step is to learn the location of all fire alarm boxes and telephones and other signaling devices, as well as the location and type of every fire extinguisher—learn them so well that even in a smoke-laden atmosphere and with no light other than a pocket flashlight he can instantly orient himself, get to the nearest signaling device, call for help, and get back to the scene of the emergency and initiate first-aid protection measures while help is on the way.

He must be instructed in the make-up and usage of the various types of fire extinguishers. This naturally leads to a study of the basic chemistry of fire and of the causes of, effects of, and precautions against spontaneous ignition. With this information properly assimilated, our guard is ready for a study of valves and simple hydrau-

lics, which will give him a rating of first-class fire patrolman.

Our guard must attend classes of instruction under competent specialized instructors; he must study, and he must attend realistic demonstrations of equipment—tests in extinguishing oil fires, rubbish fires, enamel fires, etc., staged on a proving ground in some safe area in the plant yard where he can handle equipment and actually use it on a fire.

What of the rank-and-file factory employees? These workmen are all willing and anxious to help in keeping the wheels rolling. Some of them may have differences with management over wages, hours, union recognition or other specific grievances, but none will refuse wholehearted cooperation in protection of the plant and production.

It won't be necessary to make these production men fully trained firemen and guards; they lack time for the necessary study and training. Give them noonday or quitting-time demonstrations in use of first-aid fire equipment. Inform them that any unusual condition in the department should be reported. Show them that poor house-keeping and carelessness are the forerunners of disaster. And, finally, tell them where they should report hazardous conditions for immediate action.

With these factory workers acting as eyes and ears and as a first-aid fire auxiliary to a properly trained plant protection force, the way is paved for a complete and successful plan of plant protection.

By E. L. McMILLEN, *Factory Mutual Record*, July, 1942, p. 3:2.

Calling All Men

WARNER & SWASEY CO., of Cleveland, has been training machinists' apprentices for nearly 60 years. Its regular method is to take promising young graduates from secondary machine-shop courses, give them four years of individualized shop and toolroom schooling, and finally present them with company diplomas.

Last October, however, the Cleveland reservoir of school-trained recruits for apprenticeship training, for "learner" machine hands, for semi-skilled factory jobs of all kinds, had been pumped dry by the armament

boom. Along with other expanding war producers, W. & S. decided it would have to broaden the base of its labor intake—would have to try salesmen, clerks, elevator operators, dental technicians, and others who never before had seen the inside of a machine shop.

After several weeks of intensive preparation by Warren J. Henderson, director of personnel, the company opened a basic training school for raw recruits last November, and Paul Haar, a toolmaker graduate of W. & S. apprentice training in 1927, was chosen to direct the primary training

program. Henderson, Haar, and their assistants laid out a six weeks' course of instruction, wrote textbooks covering shop mathematics, made blueprints and supplied measuring devices, had a dozen old machine tools rebuilt for trainees' shop practice, and opened school with a beginners' class of six men.

The school gradually stepped up its intake to starting classes of 32 men each. It operates 24 hours a day in three shifts, and a new class begins the six weeks' course every two weeks. To date about 200 trainees—roughly 5 per cent of the total payroll—have been graduated into "learner" jobs without diplomas or other fuss and feathers, and another 60 have been transferred to main plant assembly lines.

Although the method is easy and informal, the schooling is no snap course. It starts with blueprint reading, and proceeds with measuring instruments, math problems, home study, and shop practice. Machine tools used are: one planer with a small shaper in a collaborating setup, two milling machines, three drill presses, two grinders, two turret lathes and one engine lathe.

Trainees begin by producing useful pieces—pins, screws, brackets—their very first day in the shop. After two weeks, those judged more useful in assembly than on machines are transferred to the main plant. The others get machine assignments that last the remaining four weeks.

Although trainees begin at once on useful production, and though average

tolerances are .0005 of an inch, scrap due to faulty work is estimated at less than 7 per cent. This is achieved by extremely close supervision. In surveys taken after trainees had completed their six-week course and spent two months in the plant, the new men were found to be operating at 90 per cent of plant production standards.

School records show that about one-sixth of the men enrolled in the school quit or are dropped before the end of their courses. Of those that have finished, 90 per cent are still with the company.

From the file of successful trainees' individual records there follow two case histories:

A—High school graduate, age 29. Spent last 10 years in printing, engraving and photography trades. After no better than a "fair" start, he ended school with grades averaging above 90. Assigned to turret lathe after first two weeks. Now has turret lathe job in main plant.

B—Landscape gardener of 10 years' experience, age 31. Preliminary exams in mathematics and measurements placed him as one of the low students in mechanical intelligence. After the first two weeks he stood at the head of his class, although his previous education was no better than second-year high school.

So far this company has no women production workers. Its trainees are taken from the age group 18 to 49, with the best material, other factors being equal, found among married men of 25 to 35.

Tests given Warner & Swasey applicants, and used with individual variations by a dozen other personnel departments around Cleveland, were developed by Joseph S. Kopas, associate professor of guidance at Fenn College. Arranged on easily handled boards, they dispense with paperwork. Instead of writing an answer to each question—the longest test has 64 questions—the applicant turns a little pointer to select one choice from two, three or four possible replies. Individual scores are calculated from the reverse side (closed to the applicant) where dots and other guides point up favorable and unfavorable indicators. Kopas assembles glassed-in board frames and dial indicators in the basement of his home and sells them for

\$35 a board—\$250 for a set of six tests.

While the company considers these tests useful in the process of selecting new employees, their value in choosing experienced men for upgrading has been even more pronounced.

Kopas' tests are designed to get the answers to the following questions and get them in a strictly impersonal way: Can he learn to operate a machine easily and quickly? Can he think in mechanical terms? Will he be able to read route tickets and do simple arithmetic calculations and read instruments? Will the other workers get along and cooperate with him? Will he like factory work? Does he have hand-and-finger manipulative ability? *Business Week*, June 27, 1942, p. 66:2.

Applied Psychology

ONE reason work on munition contracts has not been speeded up may be a feeling among workers that if they make more than \$40 or \$45 a week on piecework the rate setters will cut the pay rate. If piece rates were frozen at current levels for the duration of the emergency, it is said, output could be tuned up at least 25 per cent.

Knowing his workmen, a Springfield, Mass., manufacturer with war contracts enclosed the following notice in pay envelopes:

"Smith & Wesson wants to do everything possible for defense, and to that end asks all employees to help. Production is needed. The company in order to assist in defense work announces that no reduction in any piece price or day rate will be made on such work. Make all you can and the more you make the better we will like it. Harold Wesson, president, Smith & Wesson, Inc."

—*The Iron Age* 2/6/41

Let 'Em Eat Cake

COMPARED with a control group which got none, 500 Pratt & Whitney workers who were given small vitamin-filled chocolate cakes rolled up this record:

Spoilage of material, down 37 per cent.

Man-days of work lost, down 90 per cent.

Excess earnings, up 17 per cent.

—*Modern Industry* 7/15/42

How Ford Uses Women Workers

AT the Ford Bomber Plant, Willow Run, Mich., women are already at work in most departments. Recruiting and training them is not difficult, the management has found, for the ladies have shown that they can operate drill presses as well as egg beaters.

No special tests are given prospective female employees at Willow Run. An application card and the supplementary information secured in a personal interview have been found to provide enough information for the employment office. Almost all the women workers have had some manufacturing experience, which means that they can do a satisfactory job without formal preemployment training.

Special rules and regulations for female employees do not present a problem. Women are required to wear slacks because dresses are found to be a hazard; a close-fitting covering for their hair is mandatory; low-heeled shoes are recommended. A matron is employed, and separate lunchroom and washroom facilities are provided. Women are allowed to work ten hours per day but not more than 54 hours per week. A rotating plan has been developed so that each woman works only five days per week.

On being hired, women employees are placed immediately in the shop, and an intensive training program aids in equipping them for their new jobs. For example, women training for inspection jobs attend school four hours

each day for the first two weeks, a total of 40 hours. The course consists of mathematics, including decimals and fractions; reading such precision instruments as scales, calipers, verniers, protractors and micrometers; blueprint study; rivet theory; care and use of various metals. The remaining six hours a day are spent in the inspection department learning routine matters, filing drawings and blueprints, and handling reports.

On the B-24 bomber, which contains more than 300,000 rivets, women can do lighter assembly jobs involving rivet work. Each prospective female riveter is given 100 hours in a special school in the plant, the time being divided into two weeks of school at 10 hours per day. Daily work consists of two hours of classwork on rivet theory and eight hours of actual practice on various projects in the rivet school. Rivet theory covers kinds, types, sizes and coding of rivets; in addition, blueprint reading and shop mathematics are taught, and the women are acquainted with the several kinds and sizes of rivet guns and drills. After completion of the course they are assigned to manufacturing or assembly departments.

On spot welding, which is employed on some sections of the plane, women can be used to advantage. The training includes 15 hours in the school and covers academic work on the types, kinds and gauges of the metals used; welding technique; fundamentals of

electricity; shop theory. The course lasts three weeks, with a one-hour class each day. The remaining nine hours are spent learning actual shop practice.

It takes approximately two weeks to train female employees for a specific spot-welding job, while to train for the general run of spot-welding jobs usually requires five or six weeks' time. Each woman employee is required to

pass a test given by the shop instructor; then she is approved for transfer to one of the production departments.

Women in the machine shop usually have previous machine experience, and are used on burring and filing operations. Some have shown such aptitude that they have been advanced to reaming, drilling and facing operations. *Factory Management and Maintenance*, August, 1942, p. 72:2.

Workweek Longer, Survey Shows

THE average workweek in this country increased one hour during the last year. That rise has accounted for about one-fourth of the total increase in man-hours, according to a special WPA research study.

Between June, 1941, and June of this year, the report discloses, employment increased by 3,100,000, accounting for three-fourths of the rise in man-hours. The number of workers employed 40 hours or more a week rose 3,600,000, while the number of persons working less than 40 hours declined by 500,000.

Including both agricultural and non-agricultural workers, average weekly hours of work rose from 45.7 last June to 46.7 this June, when almost 44,000,000 of the 53,300,000 employed persons were working 40 hours or more a week. The national hours policy recommends a 48-hour week maximum.

"The continued employment of large numbers of part-time workers," says the report, "may be one aspect of the fuller utilization of our labor reserves, just as is the current trend toward a longer week and the drawing in of new workers to the labor force."

—*NAM News* 8/15/42

AMA SPECIAL MANPOWER CONFERENCE

A special conference on Manpower and War Labor Problems will be held by the American Management Association at the Hotel Pennsylvania, New York, on Tuesday and Wednesday, September 29-30.

Production Management

How War Industries Fight Absenteeism

WAR plants in the Midwest are being plagued with growing absenteeism, with many machinery and metalworking plants reporting an average of 5 to 10 per cent of total employees taking one day off a week. Some plant managers attribute this to high wages which enable men to afford an occasional absence from work, while others believe that long hours are the major factor.

Naturally, the pressure under which war workers operate, the abnormal shifts being worked, and the necessity for thousands of men to become accustomed to the rigors of new types of work might have been expected to result in some periodic weakening in the employees' ability to adjust themselves. However, the war program requires that absenteeism be cut to the lowest possible point. Here is how a few plants are getting results:

Plant No. 1—A Labor-Management Committee, formed at the suggestion of the WPB, is fighting absenteeism. On a bulletin board erected near the employees' entrance to the plant is regularly featured a newspaper cartoon or headline concerning an important war development. The board then stresses the fact that, since soldiers and sailors on the front lines cannot take days off, absenteeism on the production line is inexcusable. Accompanying the display are daily figures on production lost through ab-

senteeism, with a note apologizing to the men whose absences had actually been due to illness. This bulletin board, combined with friendly talks in the shop, has resulted in a sharp drop in absences.

Plant No. 2—With three-shift operations on a six-day basis, this company was experiencing a 5 per cent rate of absenteeism weekly, with absences being concentrated on Saturday. As a result, it formed shop committees comprising men whose brothers or sons are in the armed forces. These committees check with each absentee as to why he did not report to work, and in a heart-to-heart talk try to impress on him the importance of regular attendance to our war effort. The company also posts the previous day's attendance on the bulletin board, so that all the men will know just who was absent on the previous day. Both measures are reported to have reduced absenteeism 25 per cent.

Plant No. 3—With three eight-hour shifts operating seven days a week, the company was experiencing a 14 per cent rate of absences, largely concentrated on Saturdays and Sundays. A check by the plant manager revealed that the absentees either were tired or their families had applied pressure on them to take a day off for recreation. This indicated the weekly routine had to be shortened, and the management developed a "re-

volving shift" whereby each man is given one day off a week. The management reports that absenteeism has dropped significantly since installation of the new system, and that even production has improved on a permanent basis. This company feels that inspirational posters help to bolster plant morale, and one of its recent features was: "*Soldiers and Sailors Die on Weekends. Saturday and Sunday Work is a cheap price to pay for Freedom.*"

Plant No. 4—With three eight-hour shifts operating seven days a week, the company was experiencing an abnormal amount of absenteeism, particularly on Saturdays, Sundays and Mondays, and also had found that absences in the midnight to morning shift were the greatest, with the lowest number of absences occurring in the day shift. Management representatives consulted with the men and discovered that the shift arrangement was unsatisfactory to the majority of the workers, who apparently preferred to have their Sundays off even if it

meant longer hours on weekdays. The overtime pay for longer weekday hours would offset the double-time pay being received on Sunday. A new arrangement was made whereby two 11-hour shifts were operated daily six days a week. Absences have declined and work per man has improved.

Aside from these methods, the suggestion has been made that absences at vital war plants might be published regularly in newspapers along with a statement of the amount of production lost. Another observer believes that three-shift recreation systems should be set up in all cities where workers are employed in war plants on a three-shift basis. Thus sports, theatres, bowling and other activities would always be available, and the temptation to take a day off to indulge in such recreation would be removed. This might mean the revision of local ordinances prohibiting the operation of pool parlors and bowling alleys after certain hours, and perhaps it might even be necessary for some defense plants to subsidize such arrangements. *The Iron Age*, July 9, 1942, p. 87:3.

"Floating" Tool Crib

YOU remember the bromide about the mountain going to Mohammed. In Building Six of the Delco Products Division of General Motors Corp., Dayton, Ohio, the employee doesn't have to go to the stockroom; the stockroom comes to him.

Building Six's "floating" tool crib and supply room is probably the most unusual in any factory in the United States. It is an elevator, located in the center of the building, which serves all floors, thus making it unnecessary to have a supply room on each floor. If an operator of a machine on the first floor, for example, wants tools or supplies, he rings the bell at the elevator and, presto, the floating tool crib comes to him. Should the attendant on the elevator be unable to fill the requisition, he returns to the fifth floor, obtains the article from the central supply room there, and brings it down to the first floor.

—*Delco Doings* 7/24/42

How to Set Up a Salvage System

EXCEPT in very large plants, no elaborate organization is necessary for a good salvage system.

The most important requirement is to put a qualified man in charge of the job and *give him real authority to act*. From this centralized authority, the salvage organization should radiate down through the plant superintendents until it contacts every employee in the plant. This organization need not be a formal one, merely an effective system of making every employee feel that salvage and conservation are an important part of his job. It is advisable to have short informal meetings with foremen to discuss conservation methods and possibilities of salvage. Foremen, in turn, can keep the men's interest stimulated and relay employee suggestions to the salvage head.

The importance of placing salvage work under the jurisdiction of one man is stressed by the Industrial Salvage Section of the War Production Board, which also offers the following suggestions:

1. Comb the plant for dormant scrap (unused and abandoned equipment).
2. Survey all idle plant equipment with a view to converting it to useful production.
3. Segregate:
 - a. Classify and segregate scrap.
 - b. Provide separate containers, clearly marked, for each class of scrap.
 - c. Dismantle old equipment into its component parts in order that they may be utilized in the plant or scrapped.

- d. Sort blanks, short ends, etc., for possible re-use on smaller parts made in the same or other departments.
- e. Reclaim used cutting oils, lubricants, etc.
- f. Sort sweepings and miscellaneous waste to recover valuable scrap.
4. Devise awards and incentive systems to recognize effective salvage work and suggestions.
5. Work through foremen to reach every machine operator in preventing spoilage and minimizing waste at the source.
6. Use constant reminders, such as posters, envelope enclosures, etc.
7. Eliminate unnecessary forms and records.
8. Separate paper scrap—white and colored, news and book or catalog, etc.
9. Release for scrap obsolete engravings, electrotypes, standing type, etc.
10. Speed return of scrap to mills through existing channels.
11. Be a good housekeeper.

The proper handling of scrap materials and the preparation for disposal vary widely, depending on the types and quantities involved. Some larger plants have a continuous intra-plant collection of scrap, with scales on each floor to weigh the scrap removed from each department. This provides a valuable check on departmental material consumption and an effective control over scrap segregation and disposal. In the ordinary medium- or small-sized plant, however, scrap collection can generally be handled every day or so by the regular janitor force. In such cases it is necessary to impress upon

the scrap collectors the importance of segregation and non-contamination of the various classes of scrap—particularly the metals and their alloys. The collectors should be provided with tote boxes, box trucks, bins and other containers all plainly marked for a single type of scrap.

In the majority of cases it is simpler and more expeditious to dispose of all types of scrap not to be re-used

in the plant directly to local scrap dealers. These firms have adequate collecting facilities, and often use metal and paper balers to prepare the scrap for economical shipment to the mills. Arrangements can be made to have them call at the plant at specified intervals, determined by the speed of scrap accumulation. *Mill & Factory*, August, 1942, p. 79:5.

► ENOUGH ALUMINUM to build 10 Army bombers is reclaimed every 30 days from machine shop chips and shavings in one factory.

—*Industry* 8/42



"No! He's the stenographer. I'm a welder."

—*Liberty*

Marketing Management

How Gasoline Rationing Hits Business

IN no other corner of the earth have people been so heavily dependent on the automobile as in the United States. Nowhere else has "my car" become so much a part of the average citizen's way of life. And so it had been expected that gasoline rationing would cause dislocations and hardships.

To determine the exact nature of the dislocations the Department of Commerce asked its field representatives to find out just what the effects have been in places along the eastern seaboard where gasoline rationing has been in force. While the new rationing plan may alter the situation appreciably, the findings are nonetheless significant.

Outstanding examples of dislocation in business are found, on the one hand, among firms which cater to automobiles, either as filling stations or repair shops; and, on the other hand, among enterprises which in the past have been reached mainly by car. These latter include all kinds of summer resorts and all manner of roadside eating places—some small, but others quite large and even lavish in service and appointments. Their very existence has been linked with automobile driving.

The small filling station and the small automobile repair shop had become fixtures in the American scene, but in many places they are disappearing. Gasoline rationing, however, is not the only cause of their plight. The

downtrend began when new cars were forbidden to the average customer and new tires were taken off the market. Even so, gasoline rationing, in many cases, was the straw that broke the camel's back. During the four months ended in May, 960 stations out of the 10,000 in Georgia closed. In one Virginia city, the proportion was higher still—one-seventh of the whole number of smaller filling stations. Many automobile repair and painting shops have discontinued operation and are casting about for suitable war contracts. Parking lots have seen a substantial drop in patronage, although the percentage is so variable among localities that no dependable average can be reached.

Resorts have been hard hit and are gloomy over their prospects. They were caught between shorter vacations on the one side and no gasoline on the other. Public fear that bus and train travel will be curtailed has further depressed conditions and, in some places, blackouts aggravate the problem. One important seaside resort reports that, as of early June, business was off 40 per cent, and that many hotelkeepers, both large and small, may be unable to survive. A suggestion has been made that "vacation gasoline" be allowed to those "who must get away" for change of scene or recuperation.

Even the use of parks has been reduced. The Parks Division of the

State of Georgia estimates the decline in visitors at between 65 and 70 per cent from last year's. Attendance at Jones Beach, New York, and outlying golf courses has fallen off 50 to 65 per cent.

Weekday golf has been hard hit in many places, with the decline in some instances reaching 40 per cent or more. But weekend business is holding up. There is no doubt that club and association meetings and conventions are arranged more and more with an eye on gasoline.

In one area, roadside stands located in the outlying districts reported loss of about 80 per cent of their trade, although stands within communities reported a loss of only 10 per cent. The average loss of all restaurants and roadside stands was about 45 per cent, and it seems clear that this loss will increase if gasoline rationing is tightened.

Perhaps the hardest hit have been tourist homes. Many of them will have a problem to survive as homes without tourists.

Other facts brought out in the survey include:

Lack of gasoline throws excess passenger traffic on public transportation facilities and sometimes taxes them far

beyond capacity. In one growing area the bus company, in May of this year, had over 1,800,000 revenue passengers on 67 buses; a year ago it transported about 750,000 passengers on 36 buses.

Gasoline rationing has also created problems for real estate men handling suburban property. Houses which can be reached mainly by private transportation, or by that means alone, are hard to sell or rent.

We have entered an era of concentrated shopping by housewives, of fewer trips to the city by rural shoppers, of greater patronage of "the store across the way" if it carries a full line of goods. One supermarket company of 30 units in New York reports that, under gasoline rationing, volume has not decreased but that on the last two days of the week sales have been exceptionally heavy. Customers make fewer trips, unit sales are larger, and neighbors "double up" on transportation. Another company of 12 units reports heavy trade on weekends and early in the week, with no drop in sales. Many housewives shop by bus and have their husbands pick up the packages on their way home in the evening. BY LEON S. WELLSTONE. *Domestic Commerce*, July 23, 1942, p. 3:4.

► ONE WAY to get coverage of cities and districts where salesmen have quite a number of calls to make is to let them rent bicycles when they get to a town. Swift & Company is experimenting with this idea and, if nothing more, is getting plenty of publicity. Salesmen use what transportation they can to get from one town to the next, then rent a bike to work the town. Where there is a Swift branch in a city, bicycles are provided by the local branch. The scheme may sound like a throwback to the gay nineties, but a bike is still a lot better than walking.

—Dartnell News Letter 8/15/42

Financial Management

Minimizing Risk in Government Contracts

IN government contracting, the business man may find that even strict adherence to the rules does not necessarily mean financial safety—the government has a habit of making up new rules as it goes along. There are, however, a number of ways in which part, at least, of the risk may be eliminated. (Since special contracts and those relating to facilities involve special problems, suggestions given here apply to what are known as “supply contracts.”)

First of all, the contractor should take pains to ascertain exactly how far the authority of the contracting officer extends. Is the person authorizing the work on behalf of the government really empowered to do so? What are the limits of his authority? Novices would do well to check with counsel.

Next, the contractor should endeavor to visualize points of dispute which could occur in the course of the job and lay them to rest where they will not arise to plague him, preferably in the contract itself. This in itself does not necessarily solve every problem, as is apparent from a cursory review of the Comptroller General's decisions. But it will give the contractor a starting point.

A clear understanding of terms is also essential. At the outbreak of the war, many contractors were directed to go on a 24-hour-day, seven-day-

week basis, and were advised that they would be reimbursed for additional costs. In ordinary parlance, to “reimburse” means to pay forthwith. This, however, is not the interpretation placed on the term by government procurement agencies. They have defined the promise to mean that the contractor shall renegotiate the contracts and secure a change order providing for an increase in the unit price of the articles being supplied. And the task of determining what costs were attributable to expediting performance of the contract, let alone that of securing reimbursement in whatever form the government desires, is monumental.

In the fixed-price contract, four clauses deserve particular attention: (1) the escalation clause, which provides that the contractor shall be paid for cost variances beyond his control; (2) the clause covering financing of the contract as work progresses; (3) the provision that the contractor may be furnished with working capital by way of advance payments prior to commencing performance of the contract; and (4) the ever-present tax clause relating to sales, use, excise and other taxes. With respect to the escalation clause, it is important to select a representative index on which to escalate. In some cases the indexes included in contracts are unsatisfactory because their bases are too broad and the variations in the items play only

a small part in the variations of the index.

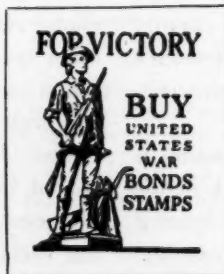
Costs allowed under the cost-plus-fixed-fee contract are those set forth in T.D. 5000. This is a confusing document at best, and the matter is further complicated by the fact that instructions given the procurement agency auditors are at variance with the principles that decision lays down. Also, the material is further subject to review by the Comptroller General, who may not be concerned either with the rules of the procurement agency or with T.D. 5000 when he finally approves the disbursement. The best that the contractor can do under these circumstances is to set forth, when the contract is being negotiated, any exceptions he thinks there should be to the cost rules indicated in T.D. 5000, and to find out exactly what rules are applied by the procurement agency.

If the contractor has the option of performing the work on either a cost-plus-fixed-fee or a fixed-price basis, his controller should carefully weigh the effects of having title to material vested in the government (the fixed-fee system) against those of the fixed-price arrangement whereby, if partial pay-

ments are not received, title is vested in the contractor. This matter is important in war-risk areas, where the contractor may not wish to assume responsibility for the inventory. Moreover, the choice has ramifications related to property taxes and insurance, and other matters of inventory—on a fixed-price contract, these costs must be borne by the contractor.

The controller should also consider the advantages and disadvantages of obtaining working capital through advance payments from the government, instead of seeking credit in the normal commercial channels. The fact that interest is charged on the advance payments and that such interest is an unallowable element of cost (in other words, deductible from the fee) should be weighed.

Finally, possibilities of profit hinge on the records kept. And it must be remembered that the government not only expects a great deal in the way of record-keeping but, under the cost-plus-fixed-fee form of operations, is willing to pay for it. Thus the contractor has an opportunity to develop new control devices. BY J. ROBLEY JANSSEN. *The Controller*, August, 1942, p. 362:5.



Effects of War on Financial Statements

EVEN in normal times, financial statements are more or less tentative in nature. Today so many unknown factors have arisen that we are approaching the point where finality may never be established. Amounts set down for many significant items must be based upon estimates of the length of the war and the course of future events—and no human being is capable of determining either in advance.

Ways in which the war has affected financial statements may be emphasized by citing typical items now being reported in published financial statements. These items and others of a similar nature raise interesting questions which the accountant must answer in the light of the circumstances.

Cash: Millions of dollars are being advanced to contractors by various agencies of the government and by contractors to subcontractors to finance construction of facilities and production of supplies needed in the war effort, and these advances are often made with the stipulation that the funds are to be used exclusively for the purpose designated. The question arises whether cash in the amount of such advances should be segregated within the current assets, shown as a separate asset, or indicated by a footnote to the balance sheet. Many companies have adopted the first procedure.

Inventories: It is particularly important that ownership of inventories

be properly determined, since reimbursements from the government for materials purchased on cost-plus contracts automatically vest ownership in the government, and on other contracts government agencies often furnish the contractor with all or part of the material and equipment needed. Some companies show the total amount of inventories on hand and deduct the government-owned amount therefrom. Advances from the government are also frequently deducted from inventories in cases where the advances are not shown as liabilities. Where the government has a lien on inventories as security for advances, disclosure should be made, preferably as a parenthetical statement in connection with the asset as well as the liability.

Contrary to the usual concepts of inventory accounting, some companies with war contracts are including unrealized profits in inventory amounts representing uncompleted contracts. One shipbuilding company states its ship construction contracts in progress on the balance sheet at accumulated cost, plus estimated profit thereon, less requisitions paid and approved for payment. Other companies with cost-plus-fixed-fee contracts carry inventories of work in process at cost incurred, plus estimated portion of fee thereon, less reimbursements received.

Fixed Assets: It may be desirable on the balance sheet to segregate investment in war facilities from fixed assets devoted to civilian requirements.

While amounts expended on facilities which will be paid for by the government are essentially receivables from the government, indicating the gross and amortized amounts of such facilities in relation to the fixed assets caption is sometimes wise. And although there is no place in captions of financial statements for facilities owned by the government and made available to the contractor, disclosure of such situations should be made.

Contingent Liabilities: One of the most important contingent liabilities facing war contractors today arises out of the possibility of renegotiation of their contracts. Disclosure of this situation in the statements or the footnotes thereto appears mandatory, although in most cases a general statement that the company has operated under contracts subject to renegotiation would be sufficient.

Income: A striking account transformation which war forces upon the industrial contractor who in peacetime sells on a quantity basis is the transfer from a general accounting basis to a system of accounting for contractors. He may now report income on the basis of shipments, partial completion of contract, completed contract, or expenditures incurred (in the case of cost-plus-fixed-fee contracts).

The question often arises whether income from cost-plus-fixed-fee contracts should be reported at the amount of the fee only or whether costs and total contract prices should both be shown. Where the government furnishes materials, labor or facilities, cost figures may be misleading; in such cases results may best be shown by reporting the fee only.

Amortization: It is generally desirable that amortization of emergency war facilities be shown separately from depreciation on previously existing facilities and that the basis of amortization be stated. Amortization for statement purposes, however, should not be confused with amortization for income tax purposes—they are two entirely different considerations.

Special War Reserves: In very few cases thus far have the events taken place for which special war reserves have been provided. When the time comes, however, the proper accounting treatment of the reserves and the actual expenses or losses for which they were provided will have to be determined. A basic requirement in such cases is that adequate disclosure be made and that the income of the period be not distorted. BY GEORGE N. FARRAND. *The New York Certified Public Accountant*, August, 1942, p. 587:8.

► WHEN THE STATUTE dealing with the capital stock tax provides that a corporation's original declaration of value in its capital stock tax return cannot be amended, it means exactly what it says, the Supreme Court has decided. In the Lerner Stores Corporation case the corporation was held bound to a \$25,000 declared value erroneously placed on its return, although, concededly, the figure should have been \$2,500,000. The case also laid to rest the claim that this tax and the related declared-value excess profits tax were unconstitutional.

—MAURICE AUSTIN in *The New York Certified Public Accountant* 8/42

Insurance

Supplementary War Damage Coverages

NOW that government war damage insurance is in full stride, the question of possible gaps arises—that is, gaps between what this insurance covers and what it might be presumed not to cover. The advisability of having private carriers write straight war risk insurance has been debated in several states, and the general feeling of insurance commissioners seems to be that such coverage should be left to the WDC. At the same time it is admitted that licensed companies may properly write consequential loss covers on war damage not included in the WDC policy or specifically excluded therefrom.

Already some private insurance companies are undertaking the insurance of property excluded from the WDC contract. Often this is done through agents or brokers who present the WDC policy and then offer a secondary policy covering specified consequential loss. Indemnity against such loss includes protection of jewelry, fine arts, pictures, statuary, furs, paintings, manuscripts, patterns and dies, stamp collections, leasehold interests, business interruption, etc.

Many other risks not covered by the WDC can be readily taken care of by endorsement on existing forms of regular insurance. It is almost certain that fire from sabotage, for example, comes under the standard fire insurance contract. The explosion policy and the

riot and civil commotion policy would presumably cover explosions caused by actions of spies. The broad form of vandalism and malicious mischief endorsement, according to most informed underwriters, can be construed to cover actual damage resulting from sabotage. And it is to be noted that much of the insurance companies' fire-prevention work is of such a character as to reduce the risk of fire during enemy attack and (where partitioning and defining walls are built and structures strengthened) to lessen the danger from bomb concussion.

Some attention has been drawn to the portion of the WDC policy which refers to damage caused by action of the "military, naval or air forces of the *United States*" (italics ours). Along the Pacific Coast, where war consciousness is keener than anywhere else in the nation, it is pointed out that armed forces of our allies might cause war damage to property insured in the WDC. However, it is probably safe to assume the American Government would promptly make provision to honor claims for damage of this nature.

Naturally, also, damage caused by our own military, naval and air forces may not result from defense against attack—damage from falling aircraft, for instance. Although not a great deal of the coverage was ever written, an

aircraft damage policy, intended for householders in and near civil airports, was designed nearly 20 years ago, and the form is available for current use.

It is conceivable that other types of damage done by our own armed forces, not definitely within the meaning of "resisting enemy attack," might be excluded from both WDC and private

insurance policies. Thus far but little consideration has been given to this phase of the subject simply because all concerned have been jointly laboring in a great patriotic cause. Only as the prime need for war damage insurance is cared for will the appendages, so to speak, become discernible. By W. EUGENE ROESCH. *The Spectator*, August 20, 1942, p. 10:6.

Keeping and Using Accident Records

KEEPING and using accurate accident records is so easy that it is surprising how few plants have any program of the sort. Often management fails to appreciate the value of a complete accident record system because it overestimates the cost. Actually, the cost is negligible.

Take an average cotton mill with 500 employees. Normally it may expect three accidents involving medical expense each month, with the probability that one will be a lost-time accident. Investigation of each will involve about 30 minutes for not more than four people, or a total of six man-hours for the three. Bi-weekly plant inspection will require two people to spend about an hour and a half per trip, or a total of six man-hours. Compiling accident data and preparing a graph takes about two man-hours, while a safety meeting of five men once a month involves approximately four man-hours. The grand total is 18 man-hours per month. Where is the mill with 500 employees that would not

willingly invest 18 man-hours a month to curtail accidents which cost many times as much? It is significant that few plants ever stop using accident records after once starting to keep the right kind.

Accident records consist of investigation reports, safety meeting reports, accident analysis charts, and graphs or visible comparisons. The character and extent of these reports depend not only on the size of the plant, but on the number of departments doing different work, and the length of time that a planned safety program has been in effect.

The normal accident investigation report should contain the following essentials: (1) a description of the accident occurrence; (2) the corrective steps for prevention of recurrence; (3) the action taken. In the safety meeting report topics discussed and the corrective recommendations made should be outlined, also any items carried over from a previous meeting or carried forward to a future meeting, and the

report should be signed by the chairman. The accident analysis chart should be as simple as possible; basically it should include the department titles and general accident-cause captions, with only such sub-captions as are essential to the isolation of accident causes.

Accident graphs, or visible comparisons, should be simple enough to develop competition among the employee group. Some illustrative device, such as a vertical line comparison rather than a horizontal one, or a number of "satans" to represent lost-time accidents, is more likely to arouse employee interest than an arrangement of numbers. Accident frequency on a basis of the number of lost-time accidents per million man-hours is the most

equitable comparison of all, but to the average workman it is just a lot of figures. The same applies to percentages when used on the basis of lost-time accidents per unit of employees. Not long ago the superintendent of a large mill told a loom fixer how proud he was that the company had lowered the accident frequency from 25 to 10 in the past year. The loom fixer said, "What do you mean, 10? Why, we ain't had that many accidents since I've been here."

The best safety suggestions come from those who have been injured. A safety program of the workers, by the workers, and for the workers will prove the most effective. By A. P. McINTOSH. *American Mutual Magazine*, June, 1942, p. 3:3.

Ultimate All-Risk Policy

WHAT is by all odds the most comprehensive all-risk policy ever written on a commercial hazard is said to be that covering the Hale Bros. Stores, Inc., Oakland, California. Twenty-four mutual companies have underwritten this risk on a valued form, a conspicuous feature of which is the deductible provision stipulating that the assured assume the first \$27,500 of any loss by earthquake and the first \$500 of the aggregate losses from other causes in any one policy year.

Instead of reciting or stating the hazards insured against, the underwriters undertake to protect the company against loss however occurring, excluding only such as are caused by: (1) deterioration or inherent vice; (2) war or invasion; (3) burglary, theft or larceny; (4) breakage of glass—unless such breakage is caused by fire, lightning, windstorm, cyclone, tornado, hail, explosion, riot, aircraft, vehicles or earthquake; (5) order of governmental authority, other than at time of and deemed necessary to retard spread of fire.

To cover the amount carried by the company as self-insurer, the insurance manager of the company has recommended that the company create a fund to which will be credited the differences in premiums and out of which will be paid losses sustained for which the underwriters are not liable because of the provisions of the deductible clauses. As the fund grows and business expands in values and numbers of units, the amount carried by the company as self-insurer may be safely increased.

—*Journal of American Insurance* 9/41

The Management Question Box

Questions and Answers on Management Practice Based on the Inquiries Received by the AMA Research and Information Bureau.

Individual replies are made promptly either by mail or telephone to inquiries received by the Research and Information Bureau. This service is available to executives of concerns holding company memberships. The questions cited here are those which it is believed are of general interest to the membership.

Benefits for Service Women

Question: Are women employees who join the Women's Army Auxiliary Corps or the Women's Naval Reserve (WAVES) generally being accorded the same company benefits as men entering the armed services?

Answer: The number of women who have joined the WAACS and WAVES is still comparatively small, and the question of military service benefits for women has not yet arisen in many companies. But the few which have decided on their policies, as well as those which are still considering the matter, seem inclined to grant women entering military service all the benefits accorded to the men.

Since Pearl Harbor, volunteers have generally received the same benefits as draftees, and it is in line with this policy not to exclude women volunteers. Moreover, companies that are extending military service benefits to women employees consider it good personnel administration to do so. In the opinion of several leading directors of industrial relations, anything less would be both tactless and unfair.

However, the existing policies cannot be applied in all cases without some modification. For example: A number of companies have been contributing toward draftees' National Service Life Insurance policies, which the WAACS and the WAVES cannot obtain. Instead, they are covered by the United States Employees' Compensation Act, Section 11 of which reads in part as follows:

Sec. 11. If any member of the corps is physically injured or otherwise incapacitated in line of duty while on active duty, while engaged in authorized training without pay, or while engaged in authorized travel with or without pay, or if any member dies as the result of such physical injury or other incapacity, she or her beneficiary shall be entitled to all the benefits prescribed by law for civilian employees of the United States who are physically injured while in the performance of duty or who die as a result thereof, and the United States Employees' Compensation Commission shall have jurisdiction in such cases and shall perform the same

duties with reference thereto as in the cases of other civilian employees of the United States so injured or otherwise incapacitated.

Another special problem might arise with respect to allowances for dependents. Relatively few companies have been making payments to dependents, but in at least two cases WAACS and WAVES with dependents will be eligible for such allowances.

Time Study Applications in the Office

Question: To what clerical operations is time and motion study particularly applicable? What has been the experience of industry in this regard?

Answer: Time and motion study has been used to advantage on nearly 50 office jobs, according to A. W. Moise, Supervisor of Office Research, Ralston Purina Company, who conducted a survey on the subject. At a 1941 conference of the Industrial Management Society of Chicago, Mr. Moise listed these occupations as follows (H. Barrett Rogers, Associate Professor of Industrial Engineering, Purdue University, presented a much similar list in discussing clerical work simplification at the April, 1942, Seminar of the Office Management Association of Chicago):

MANUAL OPERATIONS

Order billing
Bookkeeping
 (a) Cash posting
 (b) Cash proving and balancing
Typing
Transcribing
Filing
Calculating
Messengering
Invoice extending
Key-punching
Sorting
Figuring payroll and labor distribution
Stock record posting
Serial numbering and stamping
Porter work (scrubbing floors and window washing)
Separating mail
Sacking mail
Handling return mail
Enclosing
Hand-addressing
Gathering
Clipping
Stapling envelopes
Inserting

Assembling carbons
Hand-folding
Sorting incoming mail—pound basis
Reading mail
Stamping outgoing mail
Sorting outgoing mail
Counting
Hand-setting type to proof boards
Distributing type
Slipsheeting and blanking
Typing mimeograph stencils and ditto mastersheets

MACHINE OPERATIONS

Sorting machines
Tabulating machines
Checkwriter
Graphotype
Automatic addressograph
Hand addressograph
Hand-feed multigraph
Automatic-feed multigraph
Set-O-Type machine
Multilith
Mimeograph
Autotypist
Ditto

Time standards had been established, in most cases, as the basis for a wage incentive plan—that is, a plan whereby payment varies with the amount produced above a minimum requirement. Motion or methods study

is usually undertaken to eliminate unnecessary operations, simplify tasks, and reduce costs.

Mr. Moise concluded that the work of some offices lends itself to time and motion study better than that of others. He found that insurance companies, railroads and publishing houses predominated among the organizations which had found time and motion study of office operations profitable, and that, in general, better results were attained where like activities were to some extent centralized.

The subject was discussed also at the 1938 AMA Conference on Office Management.* John T. Sinkey, Assistant Treasurer, Central Hanover Bank and Trust Company of New York, described the installation of work simplification procedures in his organization, and Allan H. Mogensen, consultant in work simplification, discussed the general principles to be observed in applying time and motion study to office tasks.

All authorities place great emphasis on enlisting the cooperation of the employees when the new methods are installed. Mr. Sinkey described how this was accomplished at the Central Hanover Bank through demonstrations, meetings, motion pictures, and a suggestion system.

* Cf. *Office Management Series No. 82*, American Management Association, 1938.

Survey of Books for Executives

Dynamic Administration: The Collected Papers of Mary Parker Follett. Edited by Henry C. Metcalf and L. Urwick. Harper & Brothers, New York, 1942. 320 pages. \$3.50.

Reviewed by M. C. H. Niles

This book has the refreshing quality of a truly great contribution. Although Miss Follett died in 1933, a fresh illumination shines from the papers. She drew her material not only from

business, in which she served as consultant, and from political science, to which she contributed three thought-provoking books, but also from the social sciences. She thus unified her thought by organizing her experience, and pointed the way to others to find in administration the same absorbing challenge she herself found there. To Miss Follett, industry offered creative experience, the chance to provide psychic satisfaction in work well done and

to discover new spiritual and social riches.

"There are three chief problems of organization engineering: how to educate and train the members of an organization so that each can give the most he is capable of; secondly, how to give to each the fullest opportunity for contribution; thirdly, how to unify the various contributions. To draw out the capacities of all and then to fit these together is our problem."

This uniting of contributions into a developing whole is Miss Follett's leading idea. It has three stages—interacting, unifying and emerging. Conflict should be set to work for us, as the engineer utilizes friction. Out of the differences of view and opinion comes the possibility of a richer integration or newly created whole. Thus opinions should be exchanged at an early stage; facts should be explored together; the "either-or" of mutually exclusive solutions should be staved off; and search should be made for a solution which may be an invention rather than a compromise or a choice between alternatives.

"The essence of scientific management is to find the law of the situation and obey that." The boss as well as the worker should obey the "law of the situation." The situation evolves through interaction. The behavior of each helps create the situation to which he responds. The administrator sees what will create the new situation. He brings together and integrates the contributions of experts who may already have made the decision which he rati-

fies. His task involves insight and foresight in turning the present opportunities into new possibilities. He relates the complex outer forces and the complex inner forces in the business so that they work together effectively. Thus control is obtained through unifying. Modern control is more and more "fact-control rather than man-control," and "central control is coming to mean the correlation of many controls rather than a superimposed control."

Coordination is another aspect of interaction and unification. It is "the building up of a functional total. The parts of a business should so move together in their reciprocally adjusting activities that they make a working unit," not a collection of separate pieces. Chief executive, expert technician and workmen all have a part in building coordination, control and unity. Democracy means not only consent of the governed but also participation, the relating of parts, co-functioning. Participation involves the interpenetration of the ideas of the parties concerned. Any lasting agreement in a group comes by their sharing one another's experience. It takes place by cross-relations as well as a flow up and down through the organization.

The individual has his own specific contribution of muscle, skill, intelligence, desire and will. The leader is the person who knows how to relate the wills in a group so that they have a driving force. He organizes the experience of the group and makes it available as power, and creates a sense

of partnership in a common task, a joint responsibility. He not only assumes responsibility himself to carry the group forward, but also develops responsibility in each person under him to the greatest possible extent, and makes use of the different degrees and types of leadership under him.

Does the idea of functional unity, of subordination of parts to an effective whole, sound more like collectivism than like freedom? "No," says Miss Follett: "*Collectively* to discover and follow certain principles of action makes for *individual* freedom." Aware in 1932 of the threats to freedom then present, she urges not the "sacrifice of freedom" but a cooperation which includes enlightened self-interest and loyalty to the highest unity one knows.

Employee Relations in the Public Service. A Report Submitted to the Civil Service Assembly by the Committee on Employee Relations in the Public Service. Civil Service Assembly of the United States and Canada, Chicago, 1942. 246 pages. \$3.00.

While recent years have witnessed a growing interest in the improvement of policies and practices in the field of public personnel administration, no systematic effort has heretofore been made to record and make generally available the rich body of experience

that has been accumulated. It was with the purpose of surveying such experience that the Civil Service Assembly undertook publication of the series of authoritative reports of which this volume is part.

Field studies were made of public personnel agencies in 22 jurisdictions. Investigators interviewed more than 400 persons and prepared comprehensive case histories of the agencies visited. The result is an impartial study of a major phase of public personnel administration which should prove of considerable value to public personnel officers and of great interest to industrial executives confronted with comparable problems.

The study analyzes the problems of dealing collectively with employees in the public service and describes policies for achieving harmonious relationships. The report assembles the judgments and conclusions of leading personnel officials and students of employee relations, identifies the major issues, and presents a balanced exposition of contrasting points of view.

Major divisions of the study include: Employee Relations and the Public Administrator; Organized Government Employees; The Government as Employer; Policies Regarding Employee Organization; Areas of Collective Dealing; The Role of the Personnel Agency in Employee Relations.

YOUR LEGAL AND BUSINESS MATTERS AND HOW TO TAKE CARE OF THEM. By Henry E. Ashmun. The John Day Company, New York, 1942. 179 pages. \$1.75. Elementary information on the legal aspects of the average man's business affairs. Covers such matters as contracts, instalment buying, insurance, wills, savings and investments, purchase of a house, etc.